

XP-002103442

- 1/1 - (C) WPI / DERWENT
 AN - 93-136778 ç17!
 AP - JP910257011 910909
 PR - JP910257011 910909
 TI - New physiologically active peptide(s) with antiulcer action - are isolated from mammalian milk
 IW - NEW PHYSIOLOGICAL ACTIVE PEPTIDE ANTIULCER ACTION ISOLATE MAMMAL MILK
 PA - (SNOW) SNOW BRAND MILK PROD CO LTD
 PN - JP5065295 A 930319 DW9317 C07K7/10 007pp
 ORD - 1993-03-19
 IC - A61K37/02 ; C07K7/10 ; C07K99:00
 FS - CPI
 DC - B04
 AB - J05065295 Physiologically active peptides (I) having the formula Ile-Leu-Asn-Lys-Pro-Glu -Asp-Glu-Thr-His-Leu -Glu-Ala-Gln- Pro-Pro -Asp-Ala-Ser-Ala-Gln -Phe-Ile-Arg-Asn -Leu-Gln-Ile-Ser -Asn-Glu-Asp-Leu-Ile -Ser-Lys-Glu-Gln -Val-Ile-Alg are new.
- (I) may be isolated from milk of mammal (e.g. human, bovine, sheep, goat), nonfat milk, whey or whey protein condensate (WPC). (I) include the peptides of the amino acid sequence as well as slightly longer and shorter ones. (I) may also be prepd. by chemical syntheses by a peptide synthesiser or by gene engineering.
 - USE/ADVANTAGE - (I) inhibit secretion of gastric acid to provide antiulcer action. (I) have no adverse reaction in admin. (I) are obtd. from a cheap raw material, i.e. milk. Since large scale prodn. is possible, (I) can be used as not only drug but also food additive. (I) may be administered orally as tablets or capsules at a daily dose of more than 0.001 (pref. 0.01-1) mg/kg. Also applicable as injection at more than 0.1 (pref. 1-100) mcg/kg.
 - In an example, WPC (1 kg.) (Taiyo Kagaku KK) was dissolved in 50 l. water, adjusted to pH 3.5 with conc. HCl and ultrafiltered with a membrane GR 61 PP (DDS) at 50 deg.C, 0.4 MPa pressure and rate of 52.4 l/m².hr. When the filtrate reached 40 l., 40 l. warmed water (50 deg.C) was added to the condensate and the ultrafiltration was continued (total filtrate 160 l.). The filtrate was adjusted to pH 7.0 with 25% NaOH and further ultrafiltered in the same condition until the condensate became 5 l. This was diluted with 50 deg.C water up to 10 l. and diafiltered for desalting with same ultrafiltration membrane. When the filtrate reached 80 l. addn. of water was stopped and the filtrate condensed to 2 l. by ultrafiltration and lyophilised to give 54 g. kappa-caseinglycomacropeptide (C) in 82% purity (urea-SDS electrophoresis). (C) (1 g.) was dissolved in 50 ml. 20 mM tris-HCl buffer (pH 8.7) contg. 0.25 M NaCl and passed through a column of anion exchange resin DE-52 equilibrated with the same buffer. Non-adsorbed portion was eluted with 800 ml. the buffer and the active peptide portion eluted with 200 ml. 20 mM tri-HCl buffer (pH 8.7) to give 100 mg

crude peptide. This was applied to reverse phase HPLC with Capcell Pak C-18 AG120 (Shiseido) and eluted with 20% MeCN (0.1M NaCl/0.05M H₃PO₄ (NaOH) (pH 9)-100% MeCN) to give 40 mg. the physiologically active peptide. (Dwg.0/0)